

WHAT IS CLAIMED IS:

1. A fluidic circuit for processing fluid, comprising:

a sample loading chamber for receiving an amount of fluid for processing, said sample loading chamber having a sample inlet port;

5 a sample pass through channel having a first end and a second end, said first end of said sample pass through channel in fluid communication with said sample loading chamber;

a separation chamber in fluid communication with said second end of said sample pass through channel;

10 a sample flow channel having a first and a second end, said first end of said sample flow channel in fluid communication with said sample pass through channel; and

an analysis chamber in fluid communication with said second end of said sample flow channel.

2. A fluidic circuit for processing fluid, comprising:

15 a sample loading chamber for receiving an amount of fluid for processing, said sample loading chamber including a sample inlet port;

a sample pass through channel having a first end and a second end, said first end of said sample pass through channel in fluid communication with said sample loading chamber;

20 a separation chamber in fluid communication with said second end of said sample pass through channel;

a sample flow channel having a first and a second end, said first end of said sample flow channel in fluid communication with said sample pass through channel;

25 a mixing chamber having a first end and a second end, said first end of said mixing chamber in fluid communication with said second end of said sample flow channel; and

an analysis chamber in fluid communication with said second end of said mixing chamber.

3. The fluidic circuit according to claim 2 further comprising:

30 a vent channel having a first end and a second end, said first end of said vent channel in fluid communication with said analysis chamber; and

a vent port in fluid communication with said second end of said vent channel.

4. The fluidic circuit according to claim 3 further comprising:

a buffer loading chamber for receiving an amount of fluid, said buffer loading chamber including a buffer inlet port;

a buffer pass through channel having a first end and a second end, said first end of said buffer pass through channel in fluid communication with said buffer loading chamber; and

5 a buffer flow channel having a first and a second end, said first end of said sample flow channel in fluid communication with said second end of said buffer pass through channel, said second end of said buffer flow channel in fluid communication with said first end of said mixing chamber.

5. The fluidic circuit according to claim 4 further comprising:

10 a sample waste channel having a first end and a second end, said first end of said sample waste channel connected to and in fluid communication with said sample pass through channel;

a sample waste chamber in fluid communication with said second end of said sample waste channel;

15 a sample waste vent channel in fluid communication with said sample waste chamber; and

a sample vent port in fluid communication with said sample vent channel.

6. The fluidic circuit according to claim 4 further comprising:

20 a buffer waste channel having a first end and a second end, said first end of said buffer waste channel connected to and in fluid communication with said buffer pass through channel;

a buffer waste chamber in fluid communication with said second end of said buffer waste channel; and

a buffer waste vent channel in fluid communication with said buffer waste chamber; and

25 a buffer vent port in fluid communication with said buffer vent channel.

7. The fluidic circuit according to claim 4 further comprising:

a sample waste vent channel in fluid communication with said separation chamber; and

a sample vent port in fluid communication with said sample waste vent channel.

30 8. The fluidic circuit according to claim 7 further comprising a first capillary valve within said sample pass through channel.

9. The fluidic circuit according to claim 7 further comprising a second capillary valve at the junction of said second end of said sample flow channel and first end of said mixing chamber.

35 10. The fluidic circuit according to claim 7 further comprising a third capillary valve within said buffer pass through channel.